

Application No.: 10/561,386

**REMARKS**

**I. Introduction**

For the reasons set forth below, Applicants respectfully submit that all pending claims are patentable over the cited prior art references.

**II. The Rejection Of Claims 1-10 Under 35 U.S.C. § 103**

Claims 1-10 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Imamura et al. (US2004/0038098). Applicants respectfully traverse this rejection of the pending claims for at least the following reasons.

With regard to the present disclosure, independent claim 1 recites, in-part, a fuel cell system comprising...a control means which controls a fuel gas supplying means, an oxidizing agent gas supplying means and a raw material gas supplying means, wherein the control means controls during the starting of electricity generation of the fuel cell such that the raw material gas supplying means purges the fuel cell at least on the cathode side thereof with the said raw material gas before the oxidizing agent gas supplying means and the fuel gas supplying means supply the fuel gas and the oxidizing agent gas into the fuel cell, respectively.

In addition, independent claim 7 recites a method of starting a fuel cell system comprising a fuel cell which generates electric power from a fuel gas and an oxidizing agent gas, an oxidizing agent gas supplying means which supplies an oxidizing agent gas into the fuel cell and a fuel supplying means which supplies the fuel gas into the fuel cell, wherein the fuel cell at least on the cathode side thereof is purged with a raw material gas to be used in the production of the fuel gas before the fuel gas and the oxidizing agent gas are supplied into the fuel cell during the starting of electricity generation of the fuel cell.

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One feature of the present disclosure is to prevent acceleration of drying of the electrolyte membrane and to prevent local reaction in the fuel cell stack. This is accomplished in part by a control means which during the starting of electricity generation of the fuel cell, a raw material gas supplying means purges the fuel cell.

In contrast, Imamura teaches a technique for the purpose of preventing power drop stemming from water residence at an electrode portion or the shortage of water content in the electrode membrane, and characterized in comprising two pressure adjusting means which raises or lowers the difference of pressure between the oxidizer gas and the fuel gas, both of which are supplied to the fuel cell according to the state of the water in the fuel cell detected by a diagnosis means (see, claims 1-3 of Imamura).

Thus, the present disclosure is directed to controlling purges during start up of the fuel cell, whereas Imamura is directed to controlling gas pressure during operation of the fuel cell. As such, the two are different in both scope and function.

Moreover, the present disclosure is based on a technique of how to purge the fuel cell by use of a raw material gas, not an inert gas such as nitrogen, or hydrogen as a fuel gas stored in a hydrogen bomb container 31, as used in Imamura. It was alleged that the raw material gas of claims 1 and 7 could be fuel which does not come from a reformer. However, there is no support for this allegation, as Imamura only teaches using pure hydrogen that has been refined and processed.

Thus, Imamura fails to teach or suggest using raw material gas as a purge gas, and the invention of Imamura is directed to substantially different subject matter as that of the present disclosure. As such, it is clear that Imamura fails to disclose the limitation of claims 1 and 7 that the raw material gas supplying means purges the said fuel cell.

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In order to establish *prima facie* obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art. As is clearly shown, Imamura does not disclose a fuel cell system wherein the said fuel cell at least on the cathode side thereof is purged with a raw material gas to be used in the production of the said fuel gas before the said fuel gas and the said oxidizing agent gas are supplied into the said fuel cell during the starting of electricity generation of the said fuel cell, OR a method for starting a fuel cell wherein the said fuel cell at least on the cathode side thereof is purged with a raw material gas to be used in the production of the said fuel gas before the said fuel gas and the said oxidizing agent gas are supplied into the said fuel cell during the starting of electricity generation of the said fuel cell. Accordingly, Applicants submit that Imamura does not render claims 1 and 7 of the present disclosure obvious and as such, claims 1 and 7 are patentable and allowable over the cited prior art. Thus, Applicants respectfully request that the § 103(a) rejection of claims 1 and 7 be withdrawn.

**III. All Dependent Claims Are Allowable Because The Independent Claim From Which They Depend Is Allowable**

Under Federal Circuit guidelines, a dependent claim is nonobvious if the independent claim upon which it depends is allowable because all the limitations of the independent claim are contained in the dependent claims, *Hartness International Inc. v. Simplimatic Engineering Co.*, 819 F.2d at 1100, 1108 (Fed. Cir. 1987). Accordingly, as claims 1 and 7 are patentable for the reasons set forth above, it is respectfully submitted that all pending dependent claims are also in condition for allowance.

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IV. Conclusion

Having fully responded to all matters raised in the Office Action, Applicants submit that all claims are in condition for allowance, an indication of which is respectfully solicited.

To the extent necessary, a petition for an extension of time under 37 C.F.R. 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account 500417 and please credit any excess fees to such deposit account.

Respectfully submitted,

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